Patent

Customer No.: 31561
Docket No. 11836-US-PA
Application No.: 10/708,175

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	
Applicant	: Yeh
Application No.	: 10/708,175
Filed	: 2004/2/13
For	: METHOD OF MANUFACTURING NMOS TRANSISTOR WITH P-TYPE GATE
Art Unit	: 2813
Examiner	: CHEN, JACK S J

TRANSMITTAL LETTER
002-1-703-872-9306
(Via fax: 6 pages, followed by confirmation copy via courier)

Assistant Commissioner for Patents
Arlington, Virginia 22202

Dear Sirs,

In response to the Office Action dated July 6, 2004, please find the relevant paper in response to paper No. 20040702. Following the fax transmission, a hard copy via courier will also be forwarded to the Office.

Enclosed documents via courier will include:

- ☒ Response to Restriction Requirement in (4) pages
- ☒ Transmittal letter
- ☒ Fax confirmation report
- ☒ Prepaid return postcard

I believe that no fee is incurred. However, the Commissioner is authorized to charge any fees required in connection with the filing of this paper to account No. 50-2620 (Order No.: 11836-US-PA)

Thank you for your assistance in the subject matter. If you have any questions, please feel free to contact me.

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Respectfully Submitted,
JIANQ CHYUN Intellectual Property Office

Date: August 4, 2004 By: Belinda Lee
Belinda Lee
Registration No.: 46,863

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Application No.: 10/708,175
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: CHEN, JACK S J
Group Art Unit: 2813

In re PATENT APPLICATION of
Applicants : YEH, WEN-YUAN

Serial No. : 10/708,175

Filed : 02/13/2004

For : METHOD OF MANUFACTURING NMOS TRANSISTOR WITH P-TYPE GATE

AMENDMENT

Attorney Docket: 11836-US-PA

No fee is believed to be due. However, the Commissioner is authorized to charge any fees required in connection with the filing of this paper to account No. 50-2620 (Order No.: 11836-US-PA)

Dear Sir:

In response to the Restriction Requirement mailed on July 6, 2004, regarding to the above-identified application, Applicant elects group (A-2): without metal silicide and group (B-2): in-situ doping, specified in claims 1-2, 8-10, **with traverse.**

According to Chapter 803 in the MPEP, an application may properly be required to be restricted to one of two or more claimed inventions **only if they are able to support separate patents** and **they are either independent or distinct**. Further, to establish a prima facie case for restricting the claims of an application, the Examiner needs to (1) provide reasons why the inventions as claimed are distinct, (2) explain why the distinct

inventions must be restricted on the basis of (a) separate classification, (b) separate status in the art, or (c) a different field of search. Moreover, claims to be restricted to different species must recite mutually exclusive characteristics of such species.

A restriction requirement imposed on Group (A-1) and Group (A-2), and Group (B-1) and Group (B-2) are not proper because these claimed inventions are not able to support separate patents and they are not distinct species as defined in the MPEP.

Group (A-1) and Group (A-2), as alleged by the office as distinct species, are directed to a gate, wherein the gate is constructed from an indium doped polysilicon layer or an indium doped polysilicon layer with metal silicide layer thereon. The gate can be formed by indium doped polysilicon layer with or without a metal silicide layer thereon so as to obtain a N-channel-oxide-semiconductor transistor with a p-type gate, which is the subject matter of the present invention. The indium doped polysilicon layer with or without a metal silicide layer thereon define essentially the same subject matter, which is the N-channel-oxide-semiconductor transistor with a p-type gate; therefore, they are neither independent nor distinct, but vary only in breath and scope. A restriction to one thereof is thus not proper.

Similarly, Group (B-1) and Group (B-2), as alleged by the office as distinct species, are directed to a doping method, wherein the doping method is ion implantation or in-situ doping. The indium doped polysilicon layer can be formed by ion implantation or in-situ doping so as to obtain a N-channel-oxide-semiconductor transistor with a p-type gate, which is the subject matter of the present invention. The indium doped polysilicon layer

can be formed by ion implantation or in-situ doping define essentially the same subject matter, which is the N-channel-oxide-semiconductor transistor with a p-type gate; therefore, they are neither independent nor distinct, but vary only in breath and scope. A restriction to one thereof is thus again not proper.

Furthermore, as stated in MPEP Chapter 806.03, when the claims of an application define the same essential characteristics of a single disclosed embodiment of an invention, restriction therebetween should never be required. This is because the claims are basically different definitions of the same disclosed subject matter, varying in breadth or scope. The present invention claims a method of manufacturing N-channel-oxide-semiconductor transistor with a p-type gate. The gate of the NMOS typically comprises a doped polysilicon layer and a metal silicide layer. Group (A-1) of the present invention is drawn to a method of manufacturing N-channel-oxide-semiconductor transistor with a p-type gate having both doped polysilicon layer and a metal silicide layer, while Group (A-2) of the present invention is directed to a doped polysilicon layer only. Group (A-1) and Group (A-2) define essential the same subject matter, which is the fabrication of a N-channel-oxide-semiconductor transistor with a p-type gate, and Group (A-1) further define the p-type gate with a metal silicide layer. Group (A-1) and Group (A-2), therefore, are neither independent nor distinct, but vary only in breath and scope. A restriction to one thereof is thus not proper.

No fee is believed to be due in connection with the filing of this paper. However,

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the Commissioner is authorized to charge any additional fees that may be required to Account No. 50-2620 (Order No. 11836-US-PA).

Respectfully submitted,

Date : August 3, 2004

Belinda Lee
Registration No.: 46,863

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